

10

FIG. 1

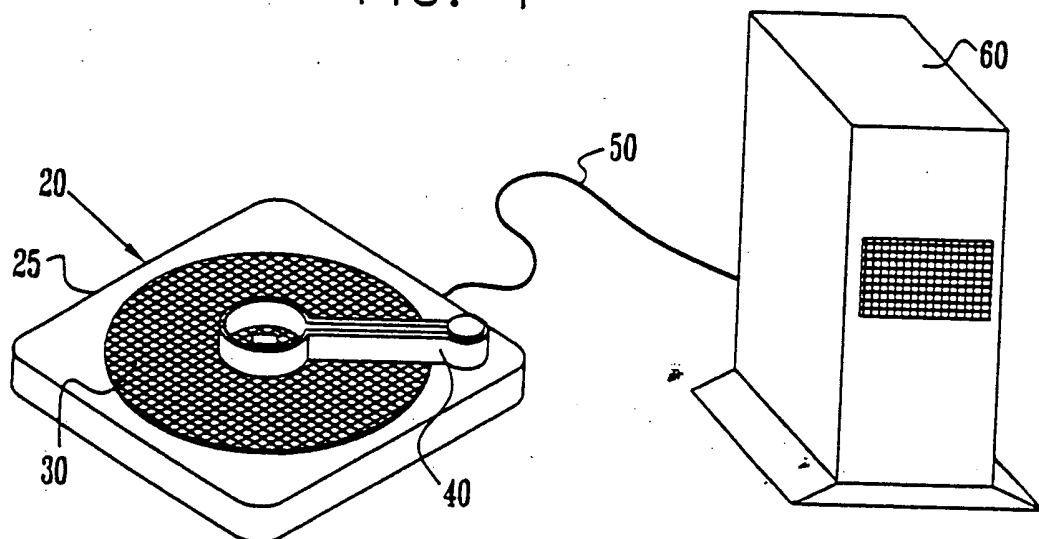
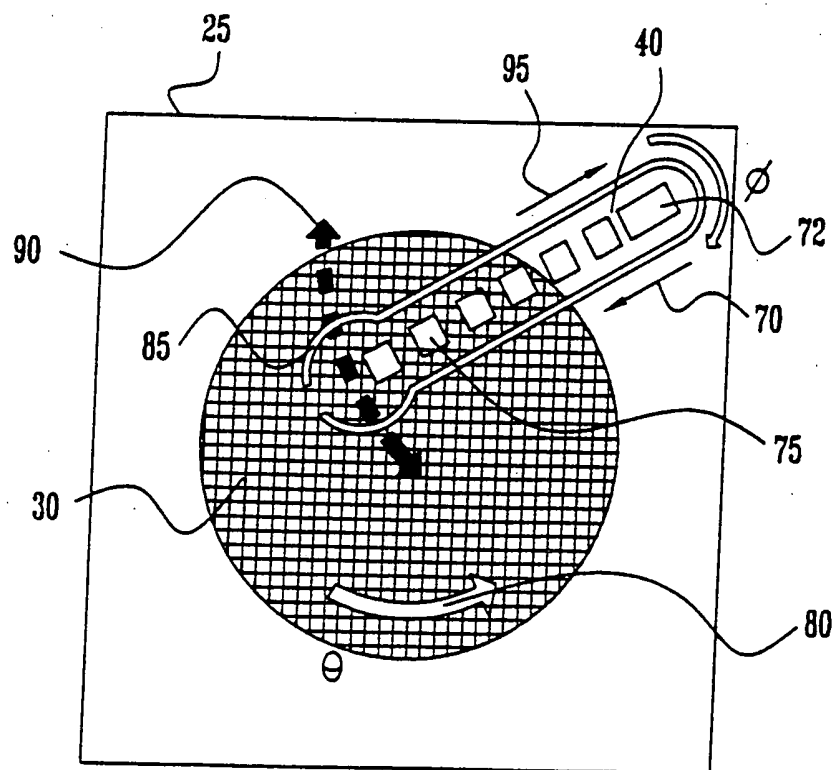


FIG. 2



DDIETT 49T2260

FIG. 3

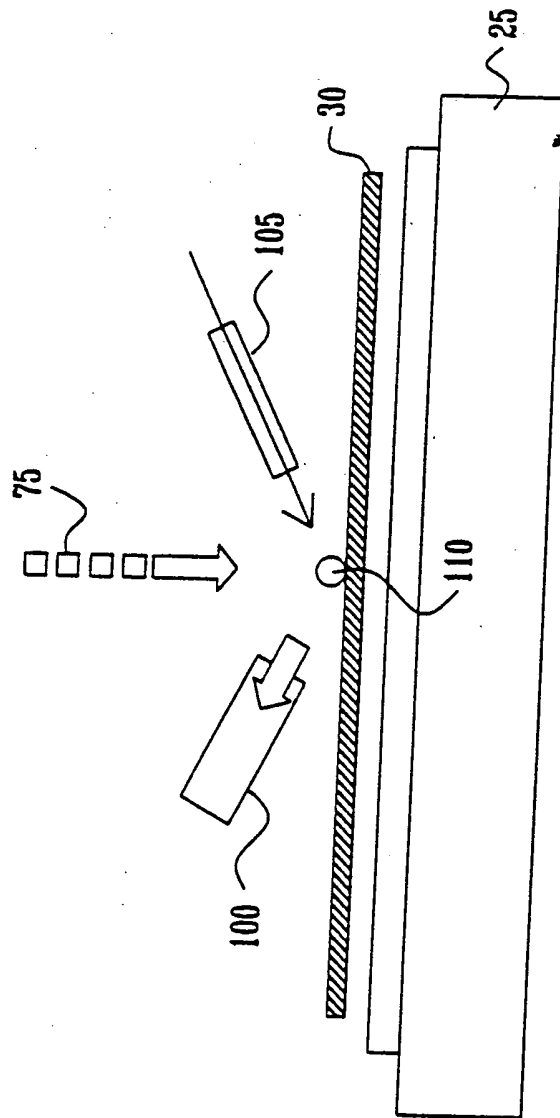


FIG. 4

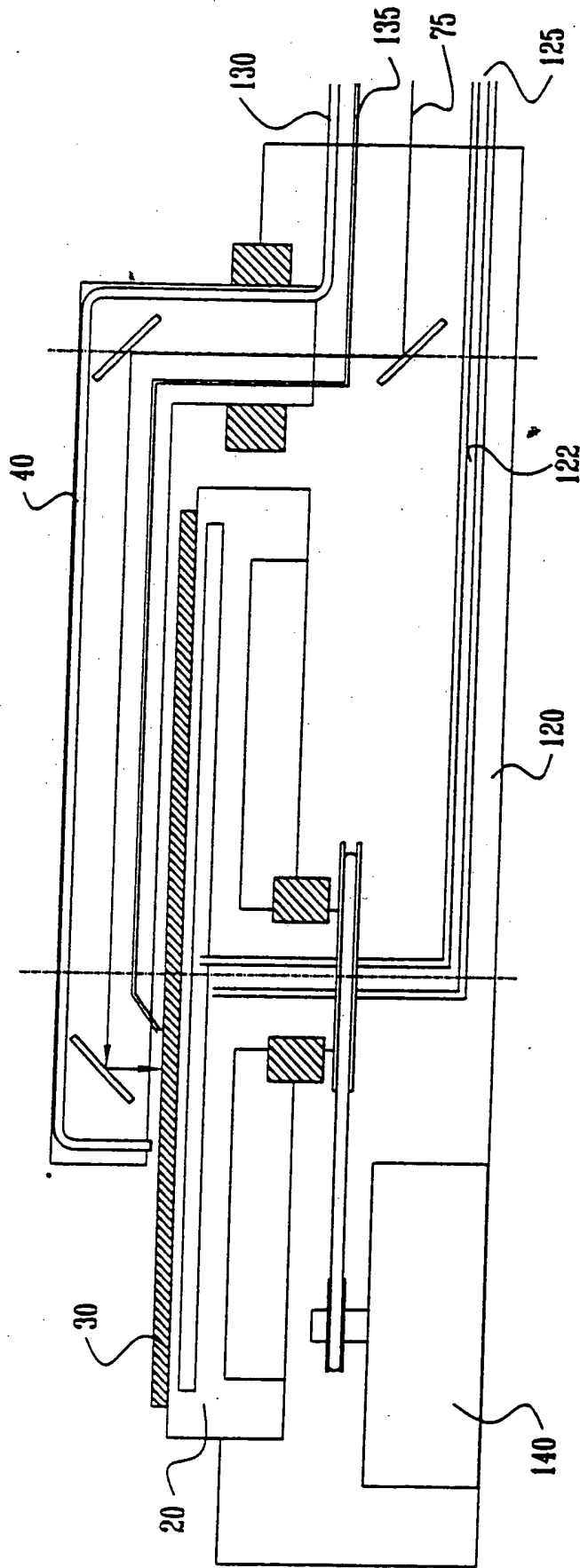


FIG. 5

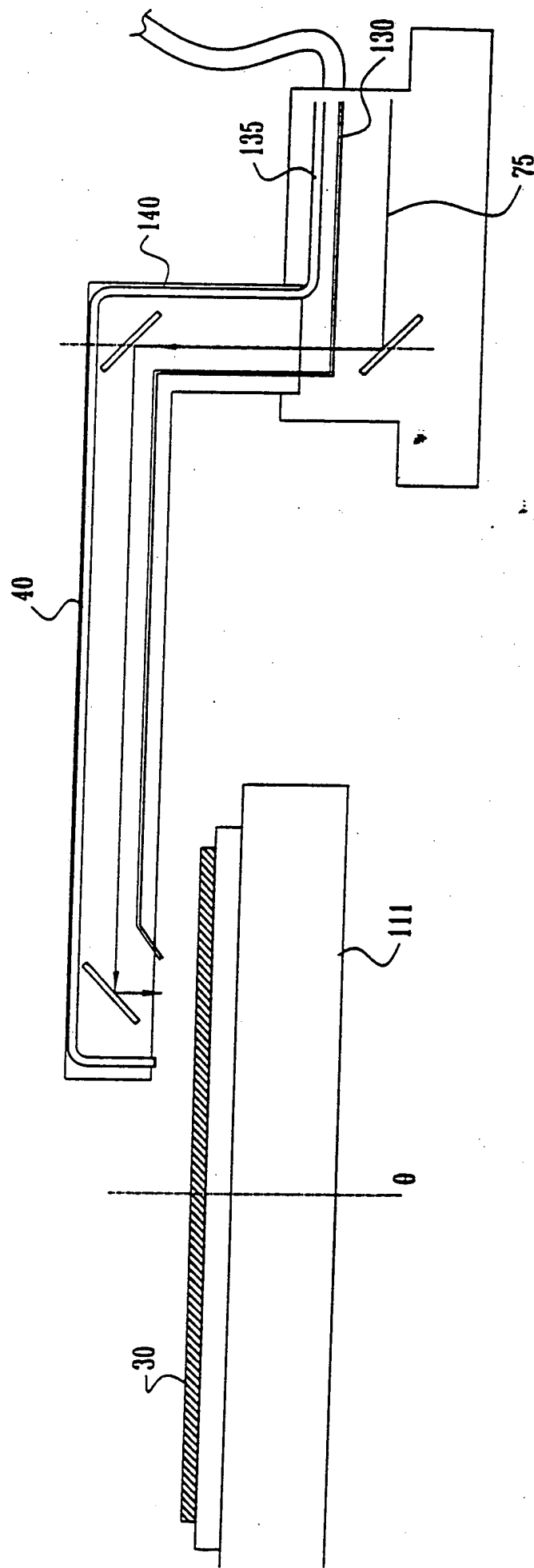


FIG. 6

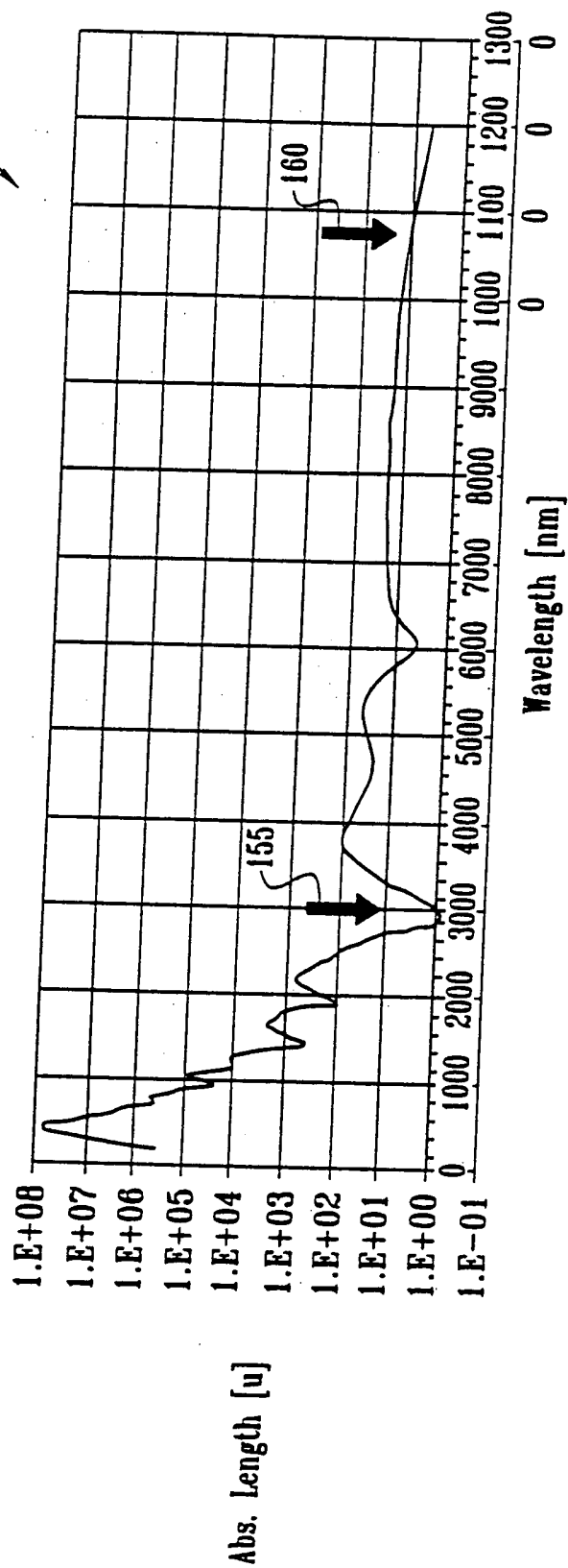


FIG. 7

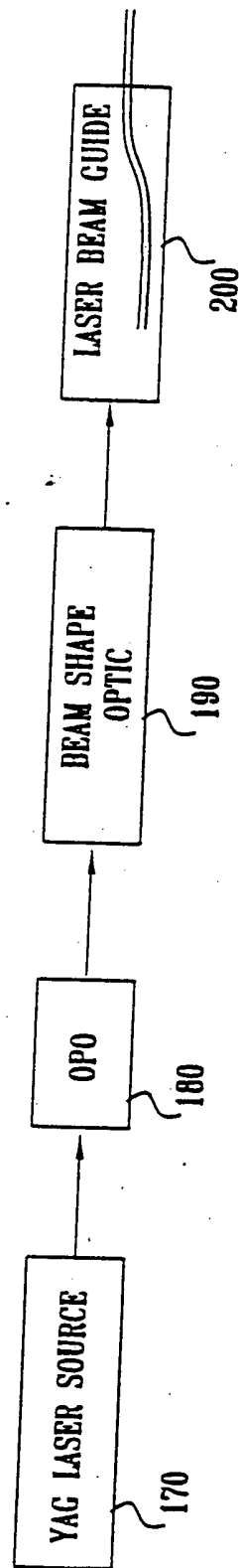
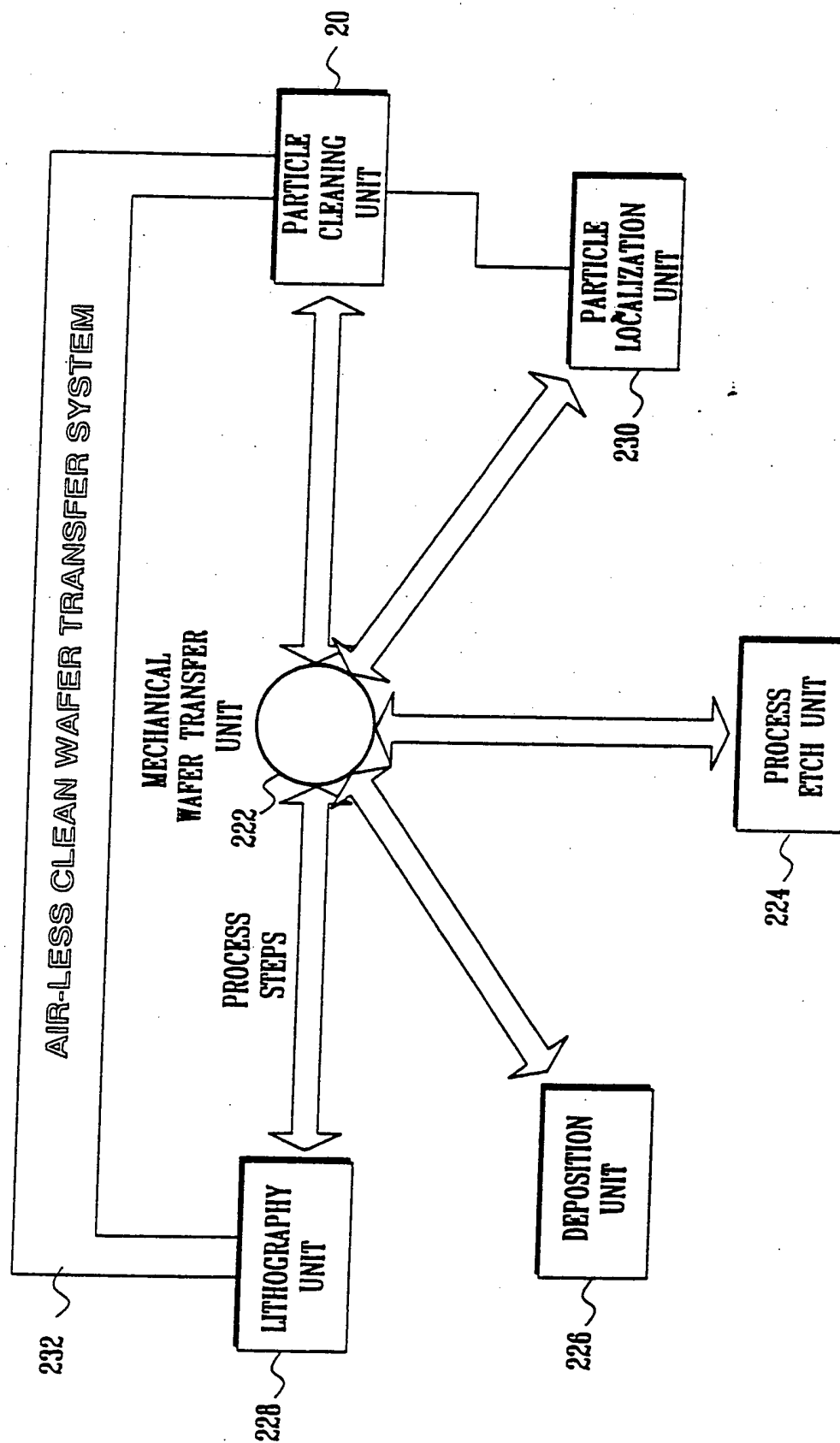


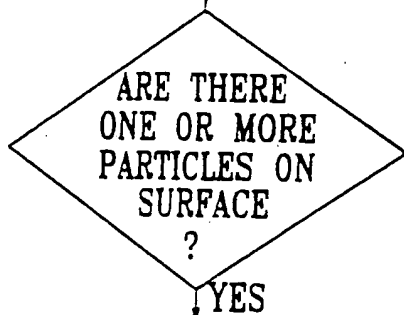
FIG. 8

210



PARTICLE LOCALIZATION UNIT  
CHECKS SOLID-STATE SURFACE OF  
SUBSTRATE

FIG. 9



SUBSTRATE  
TRANSFERRED TO PROCESS

STOP

PARTICLE LOCALIZATION UNIT  
TRANSFERS SUBSTRATE  
TO PARTICLE REMOVAL UNIT

PARTICLE REMOVAL UNIT  
RECEIVES PARTICLE  
COORDINATES FROM  
PARTICLE LOCALIZATION UNIT

CLEANING ARM ROTATES TO AREA  
OF PARTICLE ( $\Phi$  AXIS)

SUBSTRATE ROTATES TO MATCH  
ARM POSITION (PARTICLE UNDER  
ARM ( $\theta$  AXIS))

ARM TRANSFERS LIQUID TO  
SUBSTRATE SURFACE

LIQUID FILM FORMED

LASER IMPINGES ON LIQUID FILM

LIQUID FILM EXPLOSIVELY  
EVAPORATES

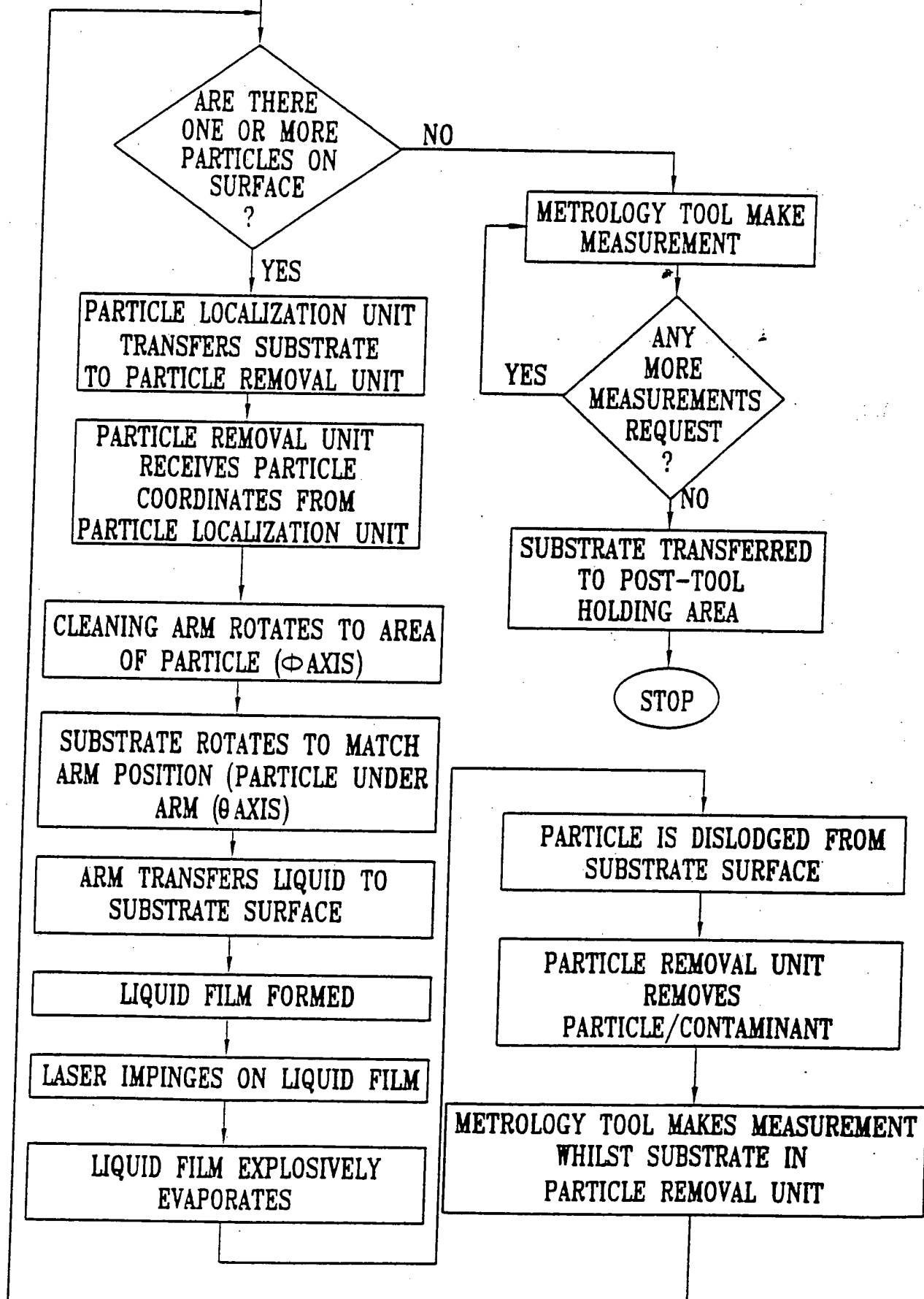
PARTICLE IS DISLODGED FROM  
SUBSTRATE SURFACE

PARTICLE REMOVAL UNIT  
REMOVES  
PARTICLE/CONTAMINANT

00221-1072460

PARTICLE LOCALIZATION UNIT  
CHECKS SOLID-STATE SURFACE OF  
SUBSTRATE

FIG. 10



000001-13200